(No Model.) 2 Sheets—Sheet 1.

# I. H. HAHN.

## AUTOMATIC CAR ALARM OPERATOR.

No. 383,524. Patented May 29, 1888.

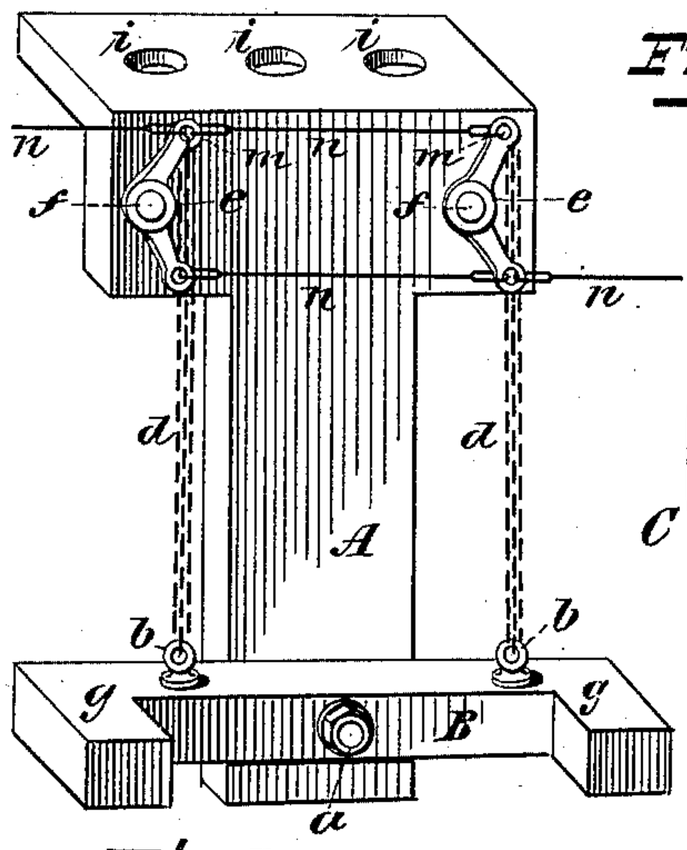



Fig. 1.

Fig. 2.

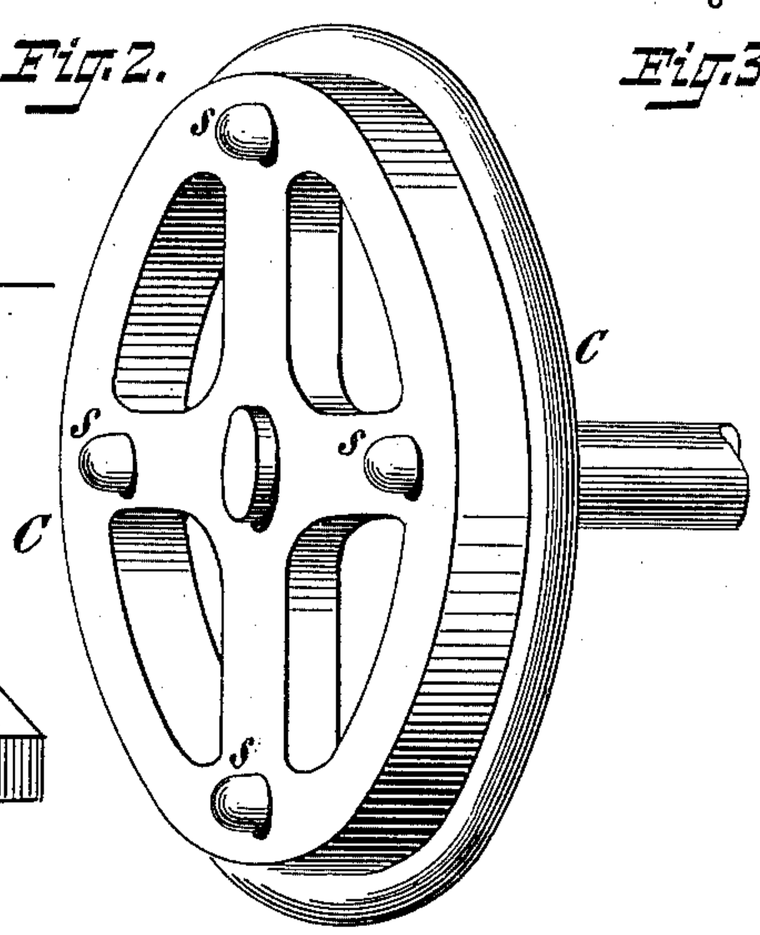
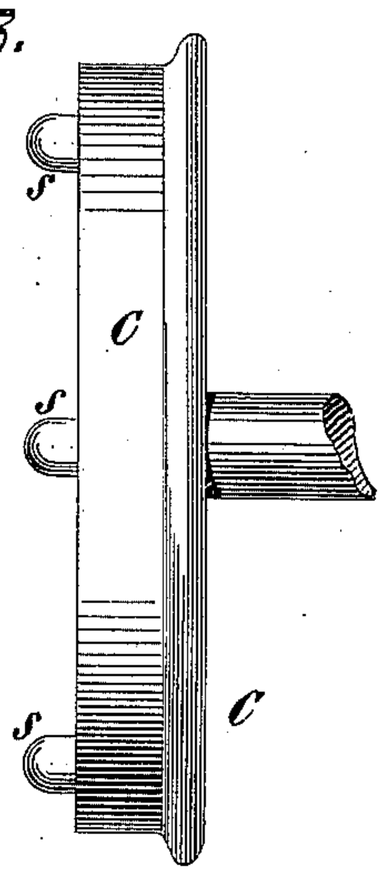



Fig. 3.



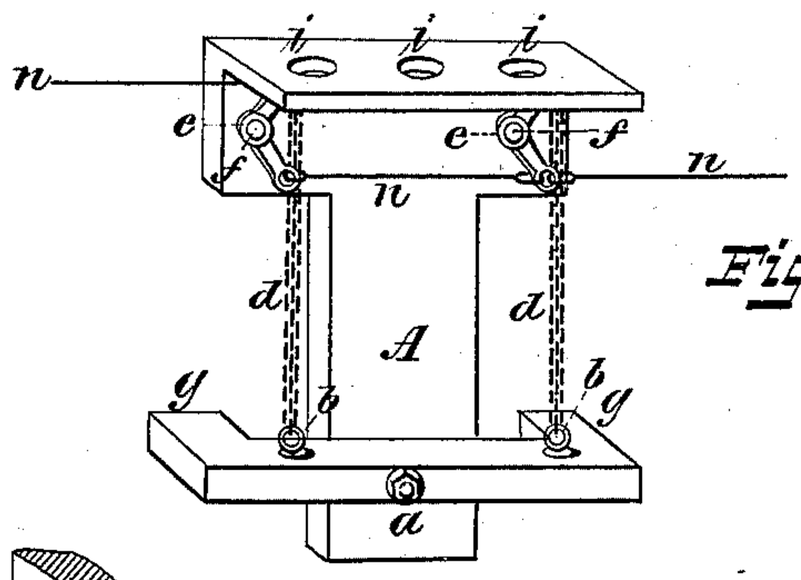
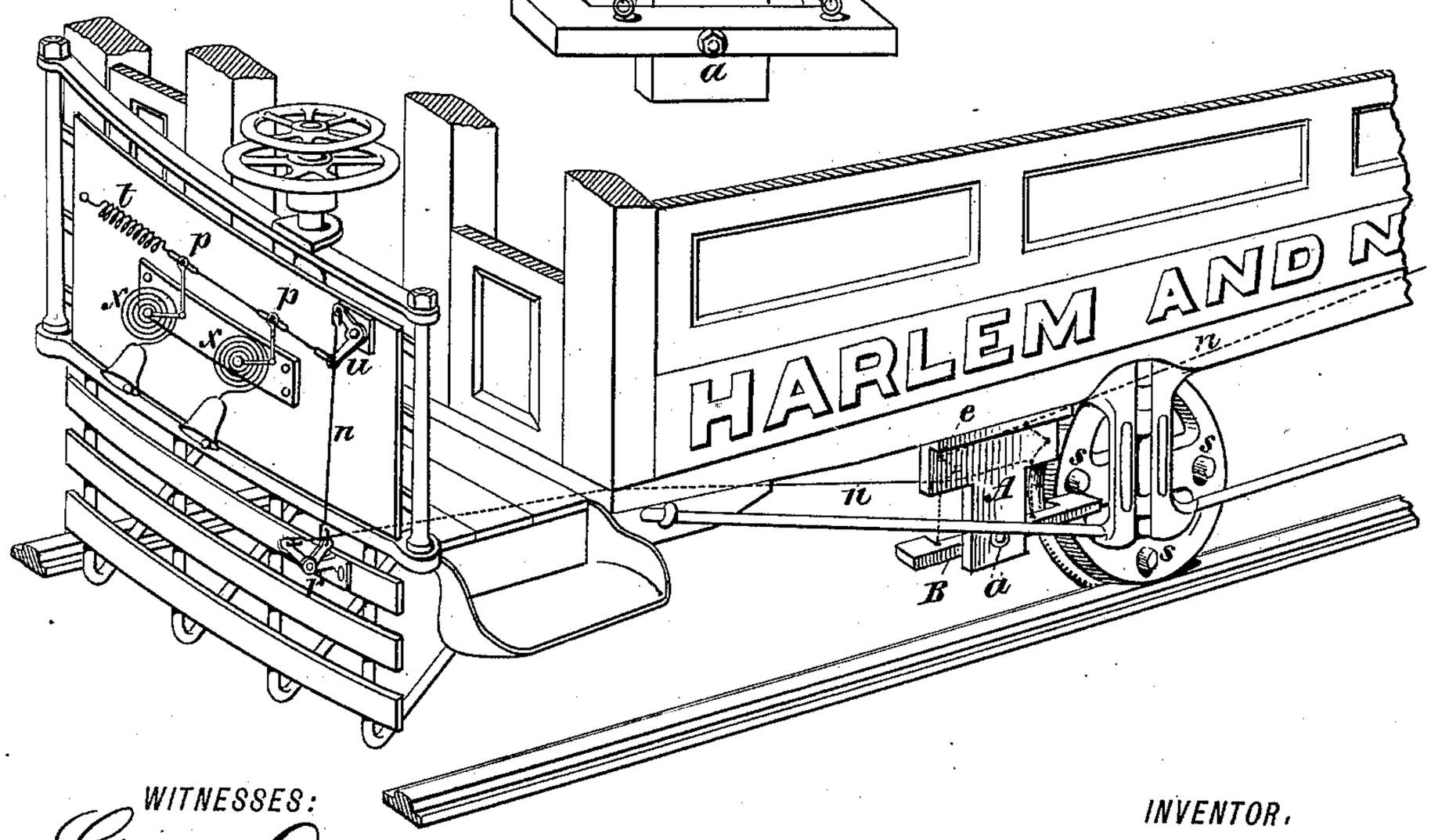




Fig. 4.

Fig. 5.




WITNESSES:

Gustave Dieterich.

C. A. Dieterich.

INVENTOR.

Isaac H. Hahn

(No Model.) 2 Sheets—Sheet 2.

# I. H. HAHN.

## AUTOMATIC CAR ALARM OPERATOR.

No. 383,524. Patented May 29, 1888.

*Fig. 6.*

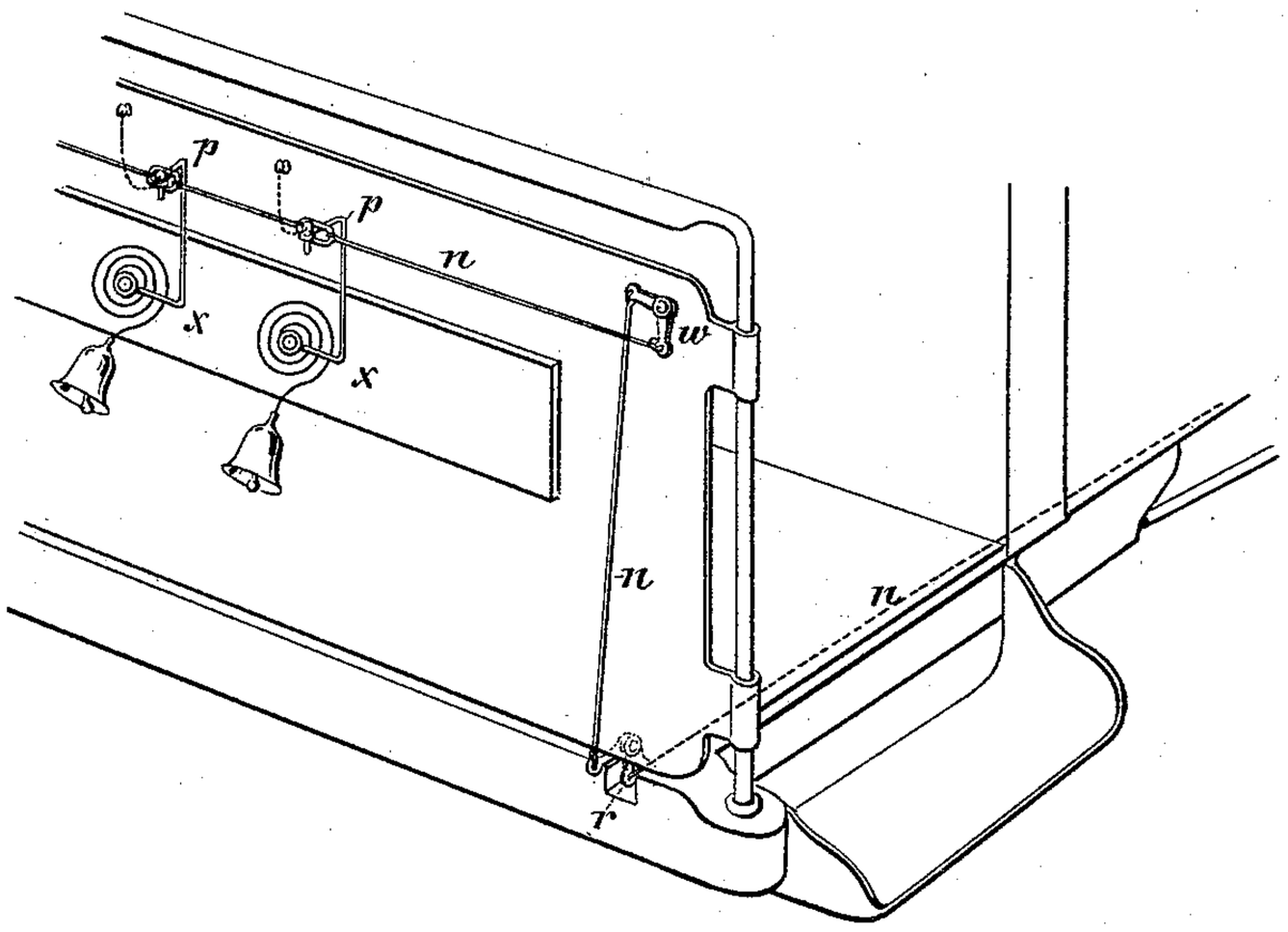
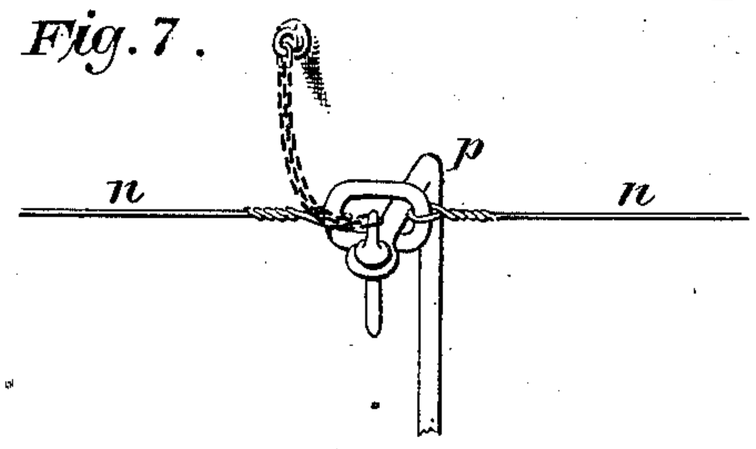



*Fig. 7.*




WITNESSES:

Gustave Dieterich.

C. H. Dieterich.

INVENTOR.

Isaac H. Hahn.

# UNITED STATES PATENT OFFICE.

ISAAC H. HAHN, OF NEW YORK, N. Y.

## AUTOMATIC CAR-ALARM OPERATOR.

SPECIFICATION forming part of Letters Patent No. 383,524, dated May 29, 1888.

Application filed March 24, 1887. Serial No. 232,340. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC H. HAHN, a citizen of the United States, residing at No. 438 East One hundred and twentieth street, city of New York, county of New York, and State of New York, have invented a new and useful Automatic Car-Alarm Operator, of which the following is a specification.

This invention relates to the use of bells or gongs as alarms attached to surface cars, such as cable or electric motor, where horses are dispensed with.

The object of my invention is to cause a bell or gong, or a number of bells or gongs, attached to both front and rear of a car to ring incessantly while the car is in motion, thereby notifying of the car's approach, and independent of the aid of either conductor or brakeman, in the accomplishment of which I produce an essential acquisition for the protection to the pedestrian against loss of life or limb by being run over through not hearing the approaching car. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a reverse view of the automatic device. Fig. 2 is a detailed view in perspective of attachments to a car-wheel to act in conjunction with Fig. 1; Fig. 3, a vertical view of wheel with attachments thereto; Fig. 4, a detailed view in perspective of the entire mechanism attached to so much of a car as will suffice to show the connection of the invention therewith; Fig. 5, the device arranged differently, yet accomplishing the same purpose, which may be used in this manner, if so preferred. Fig. 6 illustrates modification, as hereinafter described; Fig. 7, modification enlarged.

Similar letters refer to similar parts throughout the several views.

A represents a metal-capped T-plate, with horizontal bar B, of the same or other suitable material, worked on an axis by a pivot, as shown at *a*. Attached to this cross-bar by means of an eyebolt or screw, or through drilled holes, are small chains *d d*, connecting with the upper ends of the cranks *e e* at *m*, which also work on a pivot at *f f*. The upper ends, as also both the lower ones, of the cranks *e e* are connected by means of wires, (indicated at *n n*,) and are continued by carrying the same outside, as also shown at *n n*. The T-plate A is attached to the girder or bottom of the car at a distance from the wheel sufficient to admit in the wheel's revolution the knobs *s* to come in contact with that portion of the bar shown by *g* by screws or bolts through the openings in the cap, as indicated at *i i i*.

C C represent a car-wheel, on the face of which, equidistant apart, are fastened four projecting knobs, *s s s s*. These I prefer to have cast in the wheel; but if the wheel already be made, then, at places marked *s*, holes may be drilled through the wheel, and the knobs, made as pivots, may then be passed through the wheel and bolted by means of a nut on the opposite side.

The continuations of the wires *n n* from the cranks *e e*, as shown in Fig. 4, are conducted along the bottom of the car through screw-eyes attached thereto, thence to both ends of the car at points marked *r*, at which places are affixed cranks parallel with the car or track, and to the outer ends of which the wires *n n* are attached. To the inner end of the cranks a wire is also fastened, and conducted and fastened to the upper end of cranks placed parallel to the dash-boards at *w*, thence from the lower end of said cranks to and connecting with jingle-bells or gongs *x* at points *p p*, thence to and connecting with the spring *t*.

I consummate the feature of my invention in the manner shown in Fig. 4, where it will be seen that in the revolution of the wheel in one direction the knob *s*, coming in contact with the upper part of the bar B at *g*, causes the bar to move downward on the pivot *a* until it shall have uncovered the knob *s*, when it will then return to its original position by means of the springs *t t* on both front and rear of the car being in readiness to accept the following knob and to be acted on in a similar manner.

In the downward movement of the bar, as above described, it will be seen that the inner chain, or the one nearer the wheel, will be brought downward, the crank to which it is attached will partially revolve, the wires *n n* will work in an opposite direction, or, in other

words, will be drawn toward the automatic operator, thereby working the cranks at *r* and *w*, and accomplishing the desired object by pulling the jingle-bells or gongs *x* at *p p*. By the revolution of the wheel in an opposite direction the knob, as shown by *s*, at the lower portion of the wheel, arriving in contact with the under part of the bar B at *g*, causes the bar to move upward on the pivot *a* until it shall have uncovered the knob *s*, when it will again return to its original position ready to be met by the following knob, and also to be acted upon in a similar manner.

In the upward movement of the bar, as above described, it will be seen that the outer chain will be brought downward, the crank to which it is attached will partially revolve, the wires *n n* will each work in an opposite direction, or, in other words, will be drawn toward the automatic operator, as in the previous instance, working the cranks at *r* and *w*, and accomplishing the same desired object by pulling the jingle-bells or gongs *x* at *p p*.

The upper ends of the carriage of the jingle-bells (that is, their perpendicular wires at *p*) may be made outward at right angles, (the ends to form eyes,) the angles of which to be of sufficient length and width to enable them to pass through small rings or loops in the wire *n* at *p*. Small chains, to the ends of which pins are attached, may be fastened to the dash-board and passed through the eyes of the carriage, thereby adjusting the jingle-bells or gongs in a similar manner. This method may be adopted in the event of preferring to detach the bells or gongs, when, as in the position of the rear of the car, by drawing the pins, passing the rings or loops of the wire *n* over the eyes, then back to and behind the carriage, the bells or gongs on the rear of the car become detached, those on the front of the car acting alone.

To attach the bells or gongs, pass the rings or loops of the wire *n* over the eyes of the carriage, insert the pins, and they are ready for action.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. In combination with a car, an automatic alarm-operator, consisting of a car-wheel attached to the running-gear, on the face of which are projecting knobs *s s s s*, operating in conjunction with a horizontal bar, B, attached to a capped T-plate, A, suitably supported on the car, working on the pivot *a*, and transmitting power to the cranks *e e* by means of chains *d d*, all substantially as set forth and shown.

2. In an automatic car-alarm operator, the combination of a car and a capped T-plate, A, suitably supported on the car, and having cranks *e e*, working on pivots *f f*, to which chains *d d* are attached and connected with the bar B by means of eyebolts or other suitable method, substantially as described and shown.

3. In combination with the automatic alarm-operator, the cranks *e e*, attachments of the capped T-plate A, connected by wires *n n* on the bottom of the car, lengthwise to both dash-boards, and at their intersections, operating in conjunction with cranks *r*, suitably adjusted, cranks *w*, bells or gongs *x*, and counteracting-springs *t*, each suitably adjusted to the dash-boards and connected by wires *n n*, substantially as set forth and shown, for the purpose specified.

ISAAC H. HAHN.

Witnesses:
W. B. DONIHEE,
JOHN R. ROSS.